

In the Claims

1. (Original) A composition comprising an immunostimulatory nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1.
2. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid molecule consists of the nucleotide sequence of SEQ ID NO:1.
3. (Original) The composition of claim 1, further comprising an antigen.
4. (Original) The composition of claim 3, wherein the antigen is selected from the group consisting of a microbial antigen, a cancer antigen, and an allergen.
5. (Original) The composition of claim 4, wherein the microbial antigen is selected from the group consisting of a bacterial antigen, a viral antigen, a fungal antigen and a parasitic antigen.
6. (Original) The composition of claim 3, wherein the antigen is encoded by a nucleic acid vector.
7. (Original) The composition of claim 3, wherein the nucleic acid vector is separate from the immunostimulatory nucleic acid.
8. (Original) The composition of claim 3, wherein the antigen is a peptide antigen.
9. (Original) The composition of claim 1, further comprising an adjuvant.
10. (Original) The composition of claim 9, wherein the adjuvant is a mucosal adjuvant.

11. (Original) The composition of claim 1, further comprising a cytokine.

12. (Original) The composition of claim 1, further comprising a therapeutic agent selected from the group consisting of an anti-microbial agent, an anti-cancer agent, an allergy/asthma medicament.

13. (Original) The composition of claim 12, wherein the anti-microbial agent is selected from the group consisting of an anti-bacterial agent, an anti-viral agent, an anti-fungal agent, and an anti-parasite agent.

14. (Original) The composition of claim 12, wherein the anti-cancer agent is selected from the group consisting of a chemotherapeutic agent, a cancer vaccine, and an immunotherapeutic agent.

15. (Original) The composition of claim 12, wherein the allergy/asthma medicament is selected from the group consisting of PDE-4 inhibitor, bronchodilator/beta-2 agonist, K⁺ channel opener, VLA-4 antagonist, neurokinin antagonist, TXA2 synthesis inhibitor, xanthanine, arachidonic acid antagonist, 5 lipoxygenase inhibitor, thromboxin A2 receptor antagonist, thromboxane A2 antagonist, inhibitor of 5-lipox activation protein, and protease inhibitor.

17. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid has a nucleotide backbone which includes at least one backbone modification.

18. (Original) The composition of claim 17, wherein the backbone modification is a phosphorothioate modification.

19. (Original) The composition of claim 17, wherein the nucleotide backbone is chimeric.

20. (Original) The composition of claim 17, wherein the nucleotide backbone is entirely modified.

21. (Original) The composition of claim 1, further comprising a pharmaceutically acceptable carrier.

22. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is free of methylated CpG dinucleotides.

23. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid includes at least four CpG motifs.

24. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is T-rich.

25. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid includes a poly-T sequence.

26. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid includes a poly-G sequence.

27. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated for oral administration.

28. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated as a nutritional supplement.

29. (Original) The composition of claim 28, wherein the nutritional supplement is formulated as a capsule, a pill, or a sublingual tablet.

30. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated for local administration.

31. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated for parenteral administration.

32. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated in a sustained release device.

33. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated for delivery to a mucosal surface.

34. (Original) The composition of claim 1, wherein the mucosal surface is selected from the group consisting of an oral, nasal, rectal, vaginal, and ocular surface.

35. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid stimulates a mucosal immune response.

36. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid stimulates a systemic immune response.

37. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is provided in an amount effective to stimulate a mucosal immune response.

38. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is provided in an amount effective to stimulate a systemic immune response.

39. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is provided in an amount effective to stimulate an innate immune response.

40. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is provided in an amount effective to treat or prevent an infectious disease.

41. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is provided in an amount effective to treat or prevent an allergy.

42. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is provided in an amount effective to treat or prevent asthma.

43. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is provided in an amount effective to treat or prevent a cancer.

44. (Original) The composition of claim 32, wherein the sustained release device is a microparticle.

45. (Original) The composition of claim 40, wherein the infectious disease is a herpes simplex virus infection.

46. (Original) A method for stimulating an immune response in a subject in need thereof comprising

administering to a subject an immunostimulatory nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO:1, in an amount effective to stimulate an immune response.

47.-96. (Cancelled)

97. (Original) A method for preventing disease in a subject, comprising administering to the subject an immunostimulatory nucleic acid on a regular basis to prevent disease in the subject, wherein the immunostimulatory nucleic acid has a nucleotide sequence comprising SEQ ID NO:1.

98. (Original) A method for inducing an innate immune response, comprising administering to the subject an immunostimulatory nucleic acid in an amount effective for activating an innate immune response, wherein the immunostimulatory nucleic acid has a nucleotide sequence comprising SEQ ID NO:1.

99. (Original) A method for identifying an immunostimulatory nucleic acid comprising

measuring a control level of activation of an immune cell population contacted with an immunostimulatory nucleic acid comprising a nucleotide sequence of SEQ ID NO:1,

measuring a test level of activation of an immune cell population contacted with a test nucleic acid, and

comparing the control level of activation to the test level of activation, wherein a test level that is equal to or above the control level is indicative of an immunostimulatory nucleic acid.